

**CLAIMS**

What is claimed is:

1           1.     A method of optimizing medical diagnosis, procedures and  
2 reimbursement claims using a structured search space, the method comprising:  
3           listing alphanumeric codes that represent each of a plurality of medical  
4 procedures to produce a master procedure list, wherein the master procedure  
5 list includes simple procedures and compound procedures which consist of at  
6 least two simple procedures;  
7           associating a value to each of the plurality of medical procedures;  
8           listing medical procedures for a specific medical encounter to produce a  
9 list of ordered procedures;  
10          building a search tree of all possible combinations of the simple  
11 procedures and the compound procedures in the list of ordered procedures; and  
12          searching the search tree for the lowest total of values associated with  
13 the medical procedures in the list of ordered procedures.

1           2.     The method of claim 1, wherein the master procedure list also  
2 includes a short description of the represented medical procedure; a long  
3 description of the represented medical procedure, and a list of all simple  
4 procedure that make up all compound procedures.

1           3.     The method of claim 1, wherein the value associated with each of  
2 the plurality of medical procedures includes regional costs and fluctuations.

1           4.     The method of claim 1, wherein building a search tree includes: -  
2                 matching compound procedures in the master procedure list to a  
3                 plurality of simple procedures in the list of ordered procedure to produce a  
4                 matched compound procedure;  
5                 eliminating the plurality of simple procedures from the ordered  
6                 procedure list; and  
7                 adding the matched compound procedure to the ordered procedure list.

1           5.     The method of claim 1, wherein the method further includes  
2                 eliminating duplicates of simple procedures in the list of ordered procedures.

1           6.     The method of claim 1, wherein the method is implemented on a  
2                 palm sized computer.

1           7.     The method of claim 1, wherein the method is implemented on a  
2                 general purpose computer.

1           8.     The method of claim 1, wherein the listing of the medical  
2                 procedures is implemented by a medical professional at the medical encounter.

1           9.     A computer program for optimizing medical diagnosis, procedures  
2     and reimbursement claims using a structured search space, the computer  
3     program comprising:

4                 instructions for listing alphanumeric codes that represent each of a  
5     plurality of medical procedures to produce a master procedure list, wherein the  
6     master procedure list includes simple procedures and compound procedures  
7     which consist of at least two simple procedures;

8                 instructions for associating a value to each of the plurality of medical  
9     procedures;

10                instructions for listing medical procedures for a specific medical  
11     encounter to produce a list of ordered procedures;

12                instructions for building a search tree of all possible combinations of the  
13     simple procedures and the compound procedures in the list of ordered  
14     procedures; and

15                instructions for searching the search tree for the optimal total of values  
16     associated with the medical procedures in the list of ordered procedures.

1           10.    The computer program of claim 9, wherein the master procedure  
2     list also includes a short description of the represented medical procedure; a  
3     long description of the represented medical procedure, and a list of all simple  
4     procedure that make up all compound procedures.

1           11.    The computer program of claim 9, wherein the value associated  
2     with each of the plurality of medical procedures includes regional costs and  
3     fluctuations.

1           12.    The computer program of claim 9, wherein building a search tree  
2 includes:

3           instructions for matching compound procedures in the master procedure  
4 list to a plurality of simple procedures in the list of ordered procedure to  
5 produce a matched compound procedure;

6           instructions for eliminating the plurality of simple procedures from the  
7 ordered procedure list; and

8           instructions for adding the matched compound procedure to the ordered  
9 procedure list.

1           13.    The computer program of claim 12, wherein the computer  
2 program further includes instructions for eliminating duplicates of simple  
3 procedures in the list of ordered procedures.

1           14.    The computer program of claim 9, wherein the computer program  
2 is implemented on a palm sized computer.

1           15.    The computer program of claim 9, wherein the computer program  
2 is implemented on a general purpose computer.

1           16.    The computer program of claim 9, wherein the instructions for  
2 listing of the medical procedures is implemented by a medical professional at  
3 the medical encounter.

1           17. A system for optimizing medical diagnosis, procedures and  
2 reimbursement claims using a structured search space, the system comprising:  
3           a master procedure list of alphanumeric codes that represent each of a  
4 plurality of medical procedures, wherein the master procedure list includes  
5 simple procedures and compound procedures which consist of at least two  
6 simple procedures;  
7           a value associated with each of the plurality of medical procedures;  
8           a list of ordered procedures listing medical procedures for a specific  
9 medical encounter;  
10          a search tree of all possible combinations of the simple procedures and  
11 the compound procedures in the list of ordered procedures; and  
12          a minimum total of the values associated with the medical procedures in  
13 the list of ordered procedures.

1           18. The system of claim 17, wherein the master procedure list also  
2 includes a short description of the represented medical procedure; a long  
3 description of the represented medical procedure, and a list of all simple  
4 procedure that make up all compound procedures.

1           19. The system of claim 17, wherein the value associated with each of  
2 the plurality of medical procedures includes regional costs and fluctuations.

1           20. The system of claim 17, wherein the system is implemented on a  
2 palm sized computer.

1           21. The system of claim 17, wherein the system is implemented on a  
2 general purpose computer.